

EXERCISE 3
KEY

Purpose: To learn some of the basic concepts of bivariate regression analysis. **This exercise is due on Tuesday, September 13.**

Consider the following data:

Y	X
8	1
7	2
13	3
11	4
16	5
15	6

Using STATA and the above data, get the numbers for (3), (4), (7) – (18) in Exercise 2. Do they match (apart from rounding error) the numbers you got doing your calculations by hand? Print out your STATA regression output and program and turn it in with this exercise.

Answer: Here is the STATA output:

```
. regress y x
```

Source	SS	df	MS	Number of obs	=	6
Model	51.4285714	1	51.4285714	F(1, 4)	=	12.93
Residual	15.9047619	4	3.97619048	Prob > F	=	0.0228
				R-squared	=	0.7638
				Adj R-squared	=	0.7047
Total	67.3333333	5	13.4666667	Root MSE	=	1.994

y	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
x	1.714286	.4766664	3.60	0.023	.3908475 3.037724
_cons	5.666667	1.856349	3.05	0.038	.5126155 10.82072

These numbers coincide with the numbers we computed in Exercise 2, up to small amounts of rounding error.